

IN THE SPECIFICATION

At page 1, line 1, please insert the following paragraph:

PRIOR APPLICATION INFORMATION

This application is the National Stage of International Application No. PCT/CA02/01187, filed 7/26/2002.

At page 7, line 16 to page 8, line 13, in the paragraph bridging pages 7 and 8, please insert the following paragraph:

The manure mixture is then transferred to a first reaction tank 18 wherein the mixing speed is reduced to less than 20 rpm and a first coagulating agent is added. In one embodiment, the first coagulating agent is a flocculating or coagulating polymer known in the art, of anionic, cationic or non-ionic type, or a combination of such polymers and polyacrylamides. These coagulating and flocculating agents known in the art are currently used in the flocculation of sewage and other industrial and agricultural effluents. Many of these agents are polymers and/or inorganic chemicals. As will be appreciated by one knowledgeable in the art, examples of coagulating polymers include but are by no means limited to, for example SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide), manufactured by CYTEC, alum, WEB-3 or WEB1500. It is of note that other suitable coagulants may also be used. The polymer may be added in a gentle stream, as shown at 20 in Figures 1 and 2. As will be apparent to one knowledgeable in the art, SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide) is viscous and addition thereof must be controlled for optimal results. However, other suitable means known in the art of adding the coagulating agent so that good mixing within the manure mixture is obtained may also be used. As will be appreciated by one knowledgeable in the art, SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide) dosage is determined by the chemical characteristics of the manure to be treated. In some embodiments, the dosing rates can vary from 2 ml per litre to more than 10 ml per litre. SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide) is a solution of SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide) powder in water. It is preferably a 0.25% to 1% solution of SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide) powder in water. Producing a solution of higher concentration may be limited by the high viscosity of the resulting product.

In the paragraph beginning at page 9, line 3 and bridging pages 9 and 10 and ending at page 10, line 5, please insert the following:

The liquid portion in the second reaction tank 20 is mixed with a struvite-promoting compound, for example, MgCl₂, MgSO₄, MgCO₃ or magnesium oxide or a coagulant polymer as described above, or combinations thereof. In one embodiment, MgCl₂, either as a hydrate (MgCl₂·6 H₂O) or in the anhydrous form is added. At this stage, a second coagulant is also added. In some embodiments, the second coagulant is SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide), which is again added in a gentle stream, as discussed above. It is of note that in addition to or in place of SUPERFLOC, other coagulants may also be used. These include coagulant and flocculant agents known in the art and currently used in the flocculation of sewage and other industrial and agricultural effluents. Many of these agents are polymers and/or inorganic chemicals. When MgCl₂, in some embodiments, at 1 g per litre to 10 g per litre depending upon the chemical characteristics of the manure, and SUPERFLOC™ C-496PG Flocculant (cationic polyacrylamide), in some embodiments, at less than 2 ml per litre to more than 10 ml per litre depending upon the chemical characteristics of the manure, are added to this liquid with continuous mixing, large flocs begin to form due to the formation of struvite, a magnesium-phosphorous compound, which is highly insoluble in water. Thus, this combination of coagulant and struvite-promoting compound has the surprising effect of promoting floc formation to a great extent so that the flocs begin to get denser and precipitate to the bottom. After standing, the liquid portion is again passed through a screening device to separate the settled solids from the liquid portion. Specifically, the solids are removed and/or separated in a mechanical/settling process and the liquid is decanted to the next tank. It is of note that a clear liquid is obtained from this stage of treatment. It is also of note that the liquid may be treated a second time with the struvite-promoting compound(s) as described above, and as shown in Figure 1 wherein the third reaction tank is shown as 22. As will be appreciated by one of skill in the art, the necessity of this additional step will depend on the effluent being treated.